

# What information is needed for market and profitability analysis of resin tapping systems ?

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# **Market and profitability**

Aim : Prediction of resin production potential in southern Europe

- Market :
  - Production systems used around the world
  - Factors influencing the evolution of the price of resin
  - Scenarios of evolution of the price of resin in the international market
- Profitability :
  - Techniques and yields in Europe
  - Cost-Benefit Analysis
  - Production potential according to market evolution

# Market

Creation of scenarios of evolution of  
global resin market

# Production systems used around the world

### Sustainable ?

- Damages to the trees, plantation/natural forest
- Working conditions, wages

*Chinese*



*American*



*Hugues*



*Mazek*

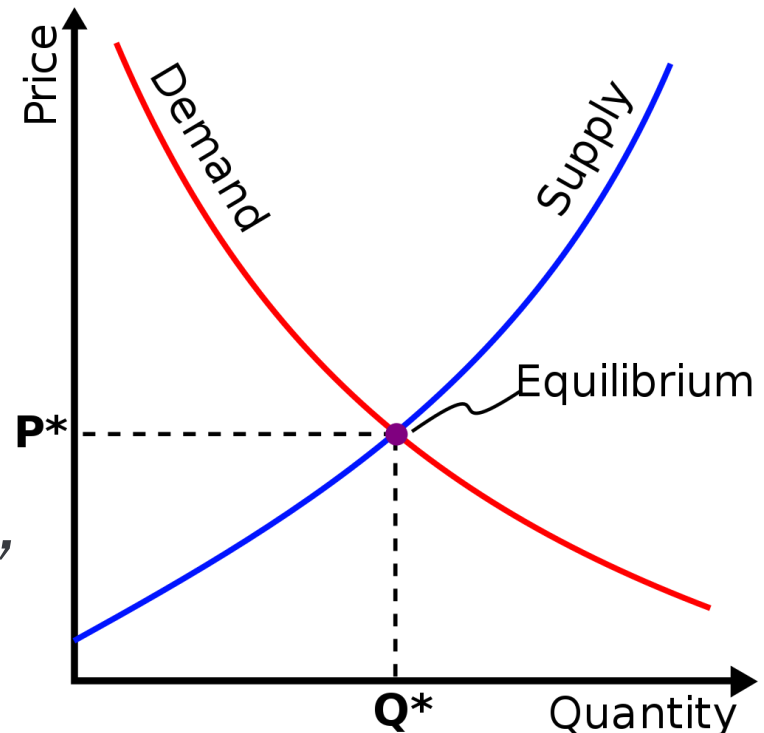


## Main factors: Supply

Country	Type of forest	Production cost	Evolution of production over the last 10 years	Production in 2016 (kT)
China	Natural	High	- 55 %	360
Brazil	Planted	Low	+ 47 %	115
Indonesia	Planted	Low	- 11 %	50
Argentina	Planted	Low	+ 178 %	25
Spain	Natural managed	Average	+ 456 %	12
France	Planted	High	New	< 0,1

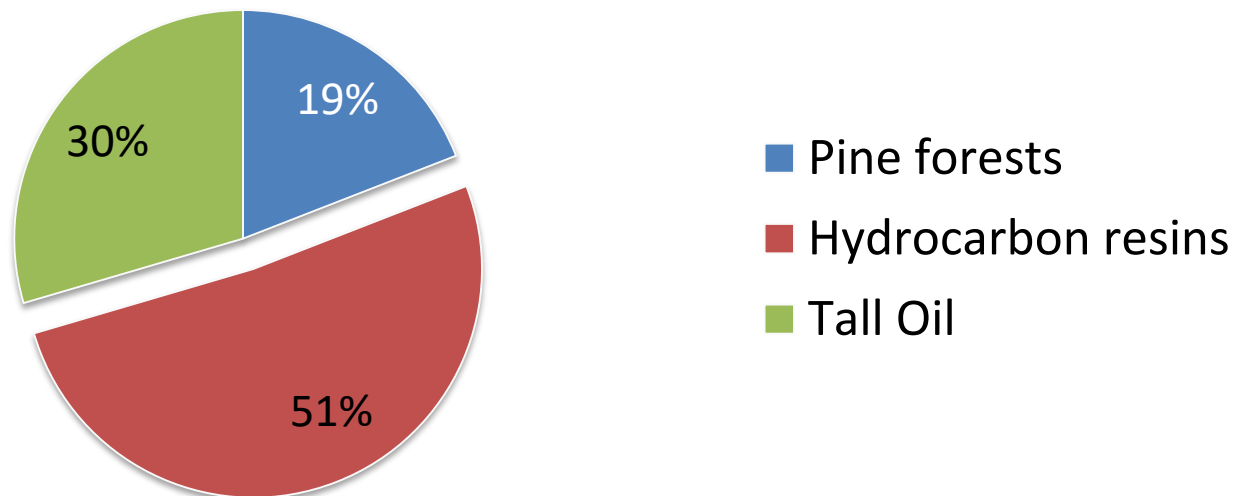
### Main factors: Demand

- Demand in Europe  $\approx 300\,000$  T/year
- Main importers:  
Netherlands, Portugal,  
Belgium, Spain.
- Evolution of the  
demand ? (*New products,  
new needs*)



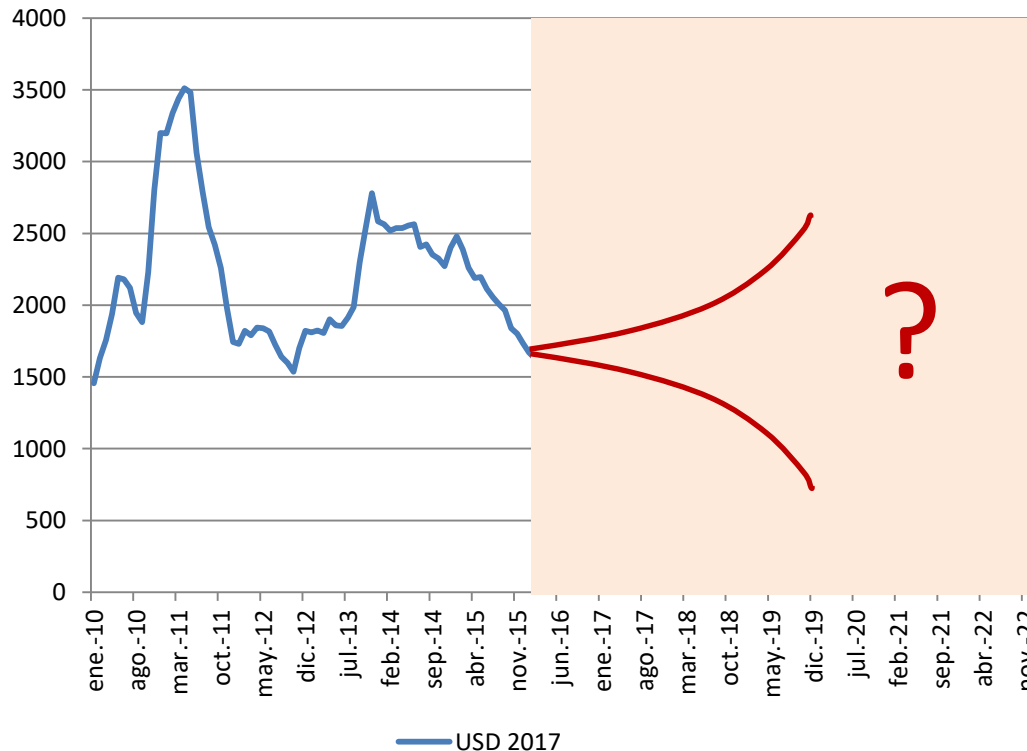
# Competition with other resins

- Global production of **hydrocarbon resins**:  
= 1 130 000 T in 2016
- Possible substitution with Hydrocarbon resin and in a lesser extent Tall Oil



## Scenarios of evolution of the price of resin in the international market

Evolution of the price of resin (USD 2017)



- Offer in Brazil ? In China ?
- Demand in Europe ? In Asia ?
- Evolution of the price of oil ?



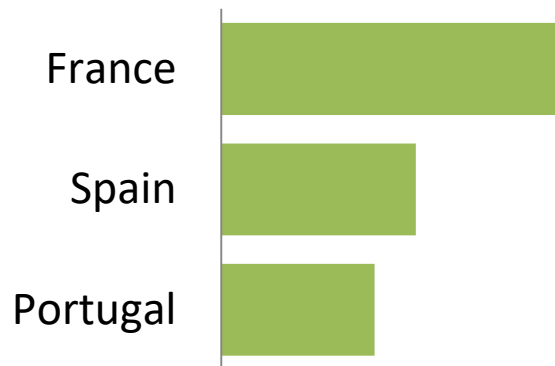
# Profitability

Profitability analysis of European  
resin tapping methods using cost-  
benefit analysis

## Systems used in Europe

Variability in the production costs in Europe:

- Cost of labor
- Efficiency



*Pica de corteza*



*Eurogemme*



# Economic analysis

Several points of view:

Resin tapper / Forester / Community

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- Resin tapper: According to investments, variable expenses and rental costs, is it profitable ?



Profitability  
analysis

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Profitability  
analysis

- Forester: It is profitable to include resin tapping in timber oriented silviculture ?



Cost-benefit  
analysis

# Economic analysis

Several points of view:

Resin tapper / Forester / Community

- Resin tapper: According to investments, variable expenses and rental costs, is it profitable ? → Profitability analysis
- Forester: It is profitable to include resin tapping in timber oriented silviculture ? → Cost-benefit analysis
- Community: Is resin tapping profitable for the whole community (forest sector, Spain, Europe) ? → Multi-criteria analysis

# **Production potential according to market evolution**

- Cost-benefit analysis + Market scenarios  
= Economic production potential
- In addition :

	Favorable	Unfavorable
Environmental criteria	Reduced forest fires, renewable product	Impact of activation (acid), pathogenicity...
Social criteria	Creation of jobs, maintaining traditions...	Difficulty of the work, social perception

# Thank you for your attention

***Merci pour votre attention***  
***Gracias por su atención***

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Coordinator



Partners



**Forestas**

Agência forestal regional para o bialgar de su  
território e de s'ambiente de su Sardegna  
Agencia forestale regionale per lo sviluppo del  
territorio e dell'ambiente della Sardegna  
**SardegnaForeste**



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